

A HISTORY AND INVESTIGATION INTO THE  
FLUCTUATIONS OF *POLYGONIA C-ALBUM* L:  
THE COMMA BUTTERFLY

By COLIN PRATT\*

(continued from p. 203)

**The ascent from 1914**

Much information and retrospective records were published in the entomological magazines of the day soon after the turn of the tide in 1914 and two early brief summaries were also written (Riley, 1929 ; Walker, 1938). But a number of different dates have been proposed by different researchers for the start of the revival, ranging from 1915 to 1929 — the later dates being uninformed. The first published sign of expansion on a local scale came from Eastbourne, when three imago's were noted in the autumn of 1915 whose antecedents had perhaps lived on the Kent border — the first within living memory — although it was disputed that these individuals formed part of the main expansion. In 1916 an extension of range was noted into Wiltshire and southern Somerset where the insect was found to be widely distributed and common. The species was abundant in Shropshire in 1917 and a singleton was even seen in the south-east London area but the first permanent return to a previously abandoned county came to Cheshire during the same season, when it was very abundant. Three individuals were recorded in Berkshire in 1918 and other reports came from Staffordshire and Scarborough, and the butterfly was fairly common in parts of Dorset. In the following year several *c-album* appeared in Hampshire, it was seen in Buckinghamshire and Essex, and the first Hertfordshire record for at least 40 years was also noted. In 1920 the insect reached Nottinghamshire and 1921 was a remarkably good season for the species — it was freshly noted on the Isle of Wight and in the New Forest, Devon, Warwickshire, and numbers rose elsewhere. In 1922 the species was common in Warwickshire and Cheshire and it penetrated into Leicestershire. In 1923 it was noted in Bedfordshire and Northamptonshire, and two years later in Huntingdonshire. The butterfly suddenly became common in West Sussex and Hampshire in 1926 and it returned to Montgomeryshire. Four specimens were seen on the Kent/Sussex border in 1927 and the insect became annually noted in the London area; in the next season reports came from Surrey and the first Cambridgeshire record for 86 years was logged. The species was seen in about half a dozen localities in

\*5 View Road, Peacehaven, Newhaven, Sussex.

Surrey in 1929, was now well established in East Sussex, and was noted annually in Kent from 1930 onwards. Then for two years this large scale expansion of distribution came to a halt but numbers increased again in 1933 and the butterfly was recorded in Cornwall for the first time ever; it also returned to Norfolk where the last sighting had been in 1861 – in both of these counties, and in Essex, the insect was reported annually after this time. In 1934 two individuals were seen in Lincolnshire and it was noted again in Derbyshire and Lancashire. The butterfly returned to Suffolk in 1935 but after this season the rapid and large scale expansion of range again temporarily ceased, although locally it continued to spread. Another singleton turned up at Scarborough in 1937 and the insect commenced a recolonisation of West Yorkshire in 1939; in the north riding it became re-established in 1941 and it was seen annually in Derbyshire from this time onwards – but the establishment was only temporary as the last colonial sightings from that part of Yorkshire came in 1951 and 1957. In 1946 the species reached as far north as Durham. Around the middle of this century stability also broke down in other front-line northern counties. In Lincolnshire a decline took place over the 1950's although the insect remained established in the south; similarly Derbyshire suffered a paucity of sightings from the mid 1950's until 1973, only being seen in 1961. The species was missing from Staffordshire from 1957 to 1968, in West Yorkshire from 1951 to 1975 and in the north riding from 1958 to 1972, from Nottinghamshire from 1948 to 1975, and from Lancashire from 1949 to 1979. This indicates another large retreat in range to south of a line drawn from the Wash to Liverpool over that era. Losses were also experienced in west Wales during these years. Numbers also fell in Surrey, Norfolk, Lincolnshire, Dorset, Cambridgeshire, Cheshire, Buckinghamshire, Sussex, Hampshire, and in parts of north Wales. Although *c-album* was reported for the first time on the Scilly Isles in 1971, the territorial losses only started to be reversed on the mainland during the mid 1970's where the butterfly returned again to south Yorkshire in 1976, to Lancashire in the following season, and to Leicestershire in 1979. Since then the species "has been particularly abundant in the early 1980's and has even spread to new areas" (Heath *et al*, 1984) but there has been no numerical increase in some south coast counties over these years – mirroring similar north/south differences during the 1860's. The insect penetrated south Yorkshire again in 1980 and, although still rare, it has been regularly seen since; in the north riding records came in 1973, 1974 and 1981. The Comma has been regularly noted in Nottinghamshire since 1980 and it returned yet again to Lancashire in 1982.

### The maps

A number of distribution maps have been published (Ford, 1945; Sanders, 1955; Heath, 1970, 1974, 1975, 1982; Howarth, 1973; Ford, 1982; Heath *et al*, 1984) but none have illustrated frequency or fully revealed the early distributions and 19th century volatility in the north.

The adjoining maps have been compiled from the most favourable records researched from each county over the periods quoted and are a diagrammatical representation of the main fluctuations in distribution and frequency of the Comma butterfly from early entomological historical times to date. The vast majority of records were from the now outdated county names and areas and these old boundaries have been used in compiling the maps and text. Largely the maps have been drawn on a county-wide basis to illustrate national changes and do not show local deviances unless sufficient specific information has been published – no doubt each county has its own detailed story to tell.

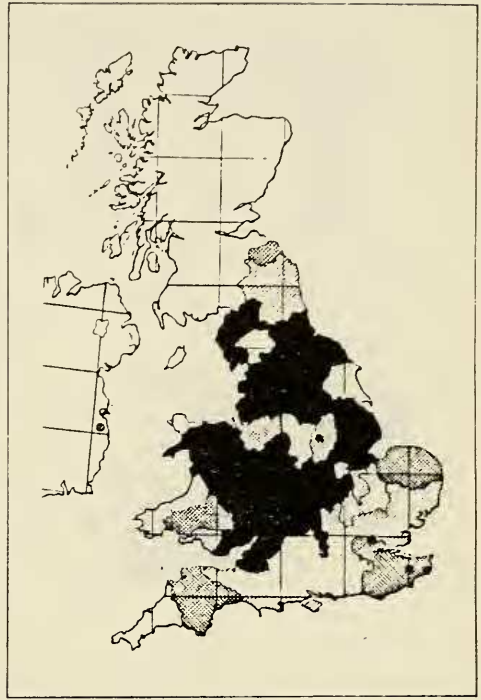
Whilst there is no doubt that hundreds of *c-album* were released, with one exception (a supposed singleton near Glasgow in 1936), as far as the maps are concerned all records have of necessity been taken of naturally occurring individuals.

In the absence of sufficient published data from each county for every decade of the 19th century, and as early records were rarely exceeded, an approximation of very early positions can be gauged from the use of records from a later era. Thus, at its most extreme, although map 1 is compiled from the best of more than a century's records it is probably a reasonable representation of the range and frequency enjoyed by the insect in the early 1800's. Similarly, map 2 clearly shows that the initial decline over the first half of the 19th century was substantially one of frequency in the south-east and best illustrates the species status at about 1870. Unillustrated, due to the lack of records over such a short and early period, is the retreat from Scotland and a number of northern England counties during the mid 19th century – but the butterfly's distribution (not frequency) was almost certainly very similar to that experienced during the 1920's. The continuing decline in numbers in the east, with some county-wide extinctions and accompanied by a more permanent loss of northern territory, is shown in map 3. Map 4 illustrates the area where *c-album* remained permanently established. The initial expansion in all directions except north shows clearly in map 5, a mainly easterly direction being maintained until about 1929 – maps 6 and 7. During the 1930's the insect swung north from the south-east, map 8, and only after 1937 did it penetrate north of Liverpool again, map 9, reaching a maximum at mid century. From 1958 to 1968 the species became extinct in these

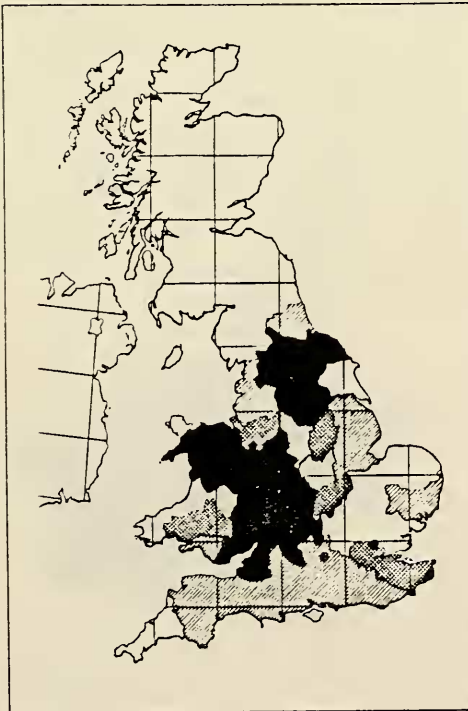




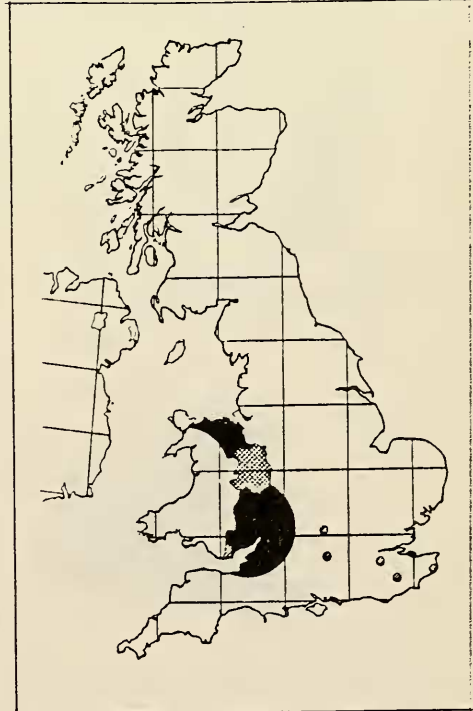
Map 1 : 1800 - 1913



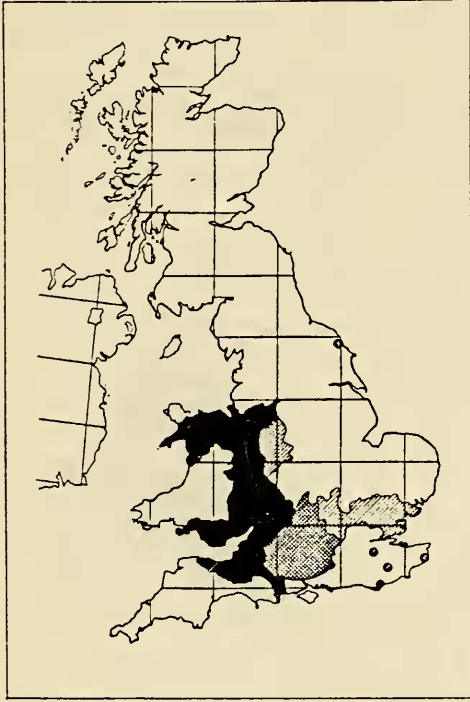
Map 2 : 1857 - 1913



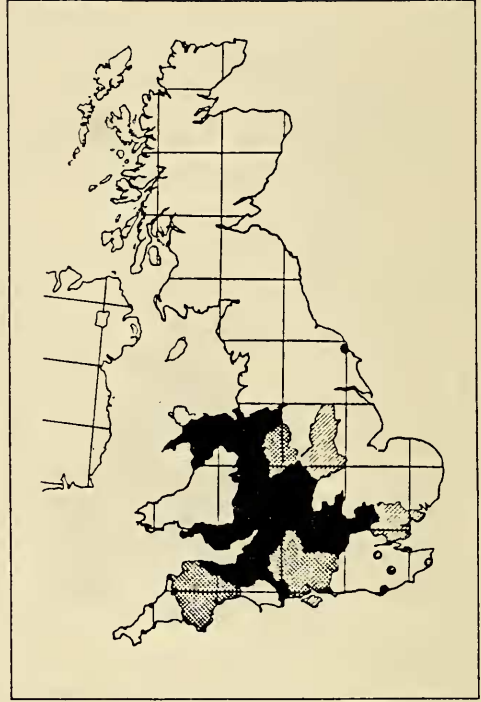
Map 3 : 1872 - 1913



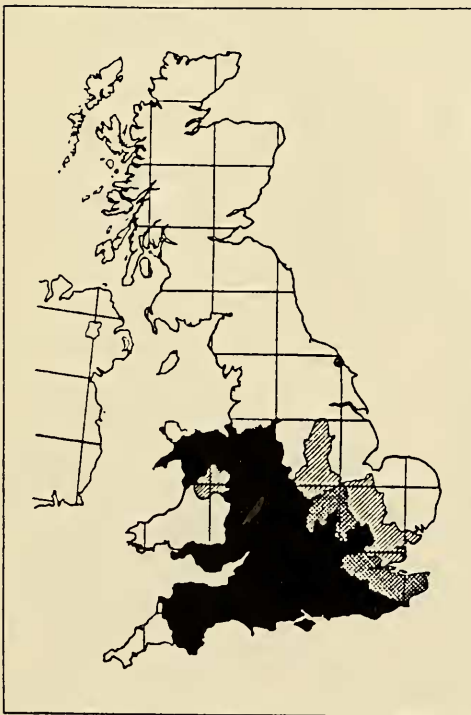
Map 4 : nadir



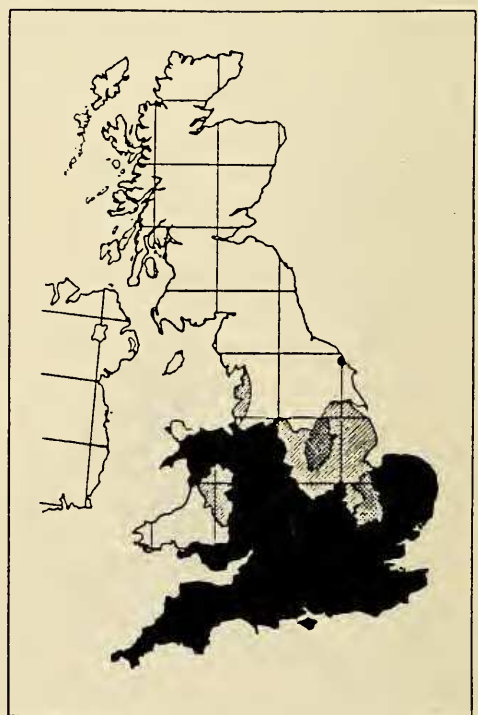
Map 5 : nadir - 1919



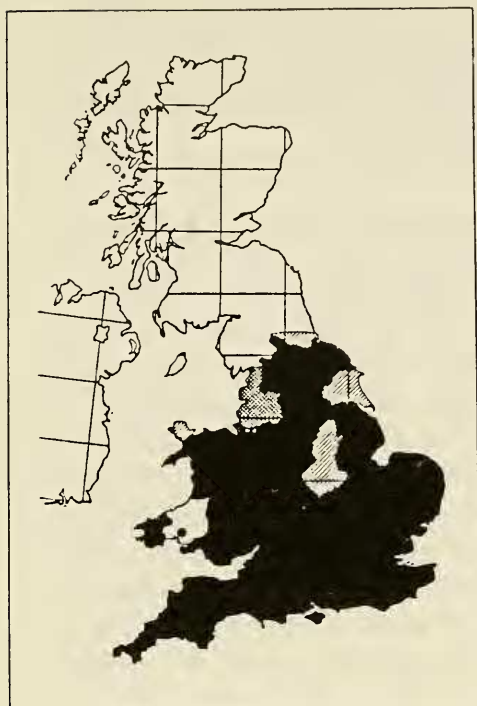
Map 6 : nadir - 1922



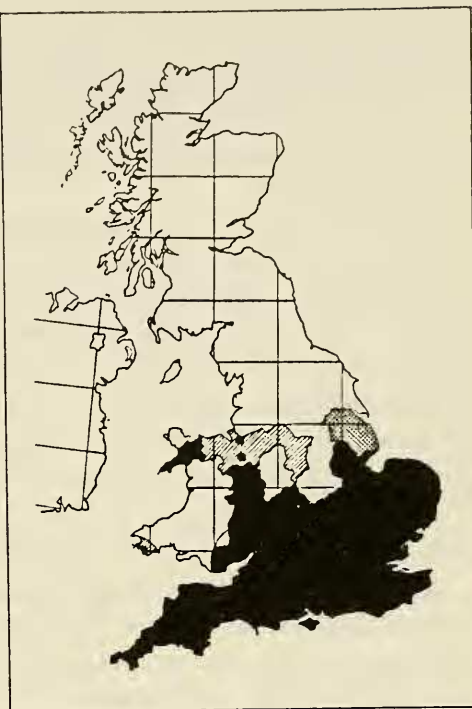
Map 7 : nadir - 1929



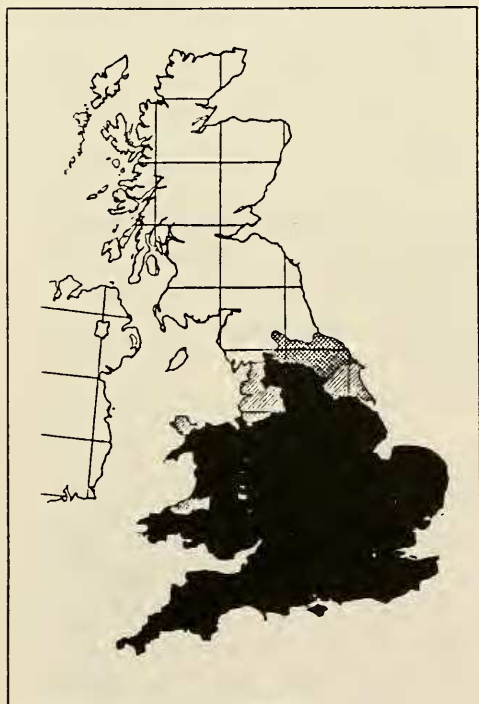
Map 8 : nadir - 1937



Map 9 : nadir – 1957



Map 10 : 1958 – 1968



Map 11 : 1969 – 1985

**KEY**

- absent
- ▨ 1 to 2 per decade
- ▩ 3 per decade to 3 per annum
- more than 3 per annum

northern districts and in some parts of Wales, as map 10 shows. The regaining of this territory in more modern times can be seen in map 11 which illustrates the position in the early 1980's.

The ascent was a directional reversal of the decline, most difficulty being experienced in the spread to the north and, to a lesser extent, to the west.

It was thought that the Comma became restricted to Gloucester, Hereford, and Monmouth, at the middle of the 19th century — “considerably exceeding its earlier range” this century (Downes, 1948) — but none of this coincides with the facts. It was also said that the insect was restricted to Monmouthshire, Worcestershire, and Herefordshire, and that its “dispersal was primarily in a northern and north-eastern direction, afterwards mainly eastern and southern, the isolated records from Essex (1919) and Eastbourne (1924 and 1926) . . . not forming part of the main phenomenon” (Riley, 1929). In fact the butterfly had struck east into Cheshire by 1918, having been permanently established in the adjoining counties of north Wales and Shropshire, having previously spread into southern Somerset from the north; moreover, it was to be sixteen years before the boreal record was exceeded.

Over the first quarter century, the speed of recolonisation was consistent at four to six miles per annum — not as fast as might have been thought.

(to be continued)

---

BRYOTROPHA SPECIES (LEP.: GELECHIIDAE) ON FLOWERS. — Referring to the note by R. J. Heckford (*antea*: 123), I have seen imagines of *Bryotropha terrella* (D. & S.) occasionally resting on flowers of a cultivated yellow *Achillea* in my garden during evenings in June and July. Also, I find *Scrobipalpa nitentella* (Fuchs) (Gelechiidae) resting frequently on flowers of *Tripleurospermum maritimum* (scentless chamomile) on fringes of a local saltmarsh on sunny evenings in July and August. H. N. MICHAELIS, 5 Glan-y-Mor, Glan Conwy, Colwyn Bay, LL28 5TA.

THE BLACKNECK (LYGEPHILA PASTINUM TREITS.) IN STAFFORDSHIRE. — On July 11th 1986 several moths of this species were found in the daytime along a disused railway line at Gnosall on the western border of Staffordshire. The only previous record for the county was of a single example in a moth trap in 1983. The line in question is being kept open as a footpath and bridleway and is proving of considerable interest for Lepidoptera. On June 19th 1985 I found *Homoeosoma sinuella* Fabr. which although a common species in the south was also new to Staffordshire. R. G. WARREN, Wood Rinding, 32 Whitmore Road, Trentham, Stoke-on-Trent, ST4 8AP.